

ALTERUS organ controller

www.alterus.net



User manual

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1. General description

ALTERUS is a sophisticated yet simple organ stop controller, which ensures optimal integration into organ, simple user experience and removable media support. Using graphical OLED display all relevant data is displayed, such as bank number, bank name, combination number, crescendo levels etc. Controlling is very intuitive using dedicated control buttons.

A standard USB memory sticks can be used as removable media, which means cheap and unlimited memory storage. As each player can have own media (or more of them!), situations from the past, where one player deleted stored sequences of another player, are just the history now.

Stop combinations can be simple edited on the organ or also at home using our web tool, which works on any OS (Windows, Mac, Android ...). This simplifies whole process, especially as advanced functions (such as smart copy-paste, insert, delete) are also possible.

ALTERUS FUNCTIONS IN SHORT

- Storing of 999 stop combinations in 99 banks – $99 \cdot 999 =$ almost 100.000 combinations on a single USB key. Number of USB keys, which can be used, is not limited!
- Works with any standard USB memory stick
- Programmable crescendo with 64 levels (internal memory)
- 3 user-programmable crescendos (on USB stick)
- »Quick combinations« recall in bank 0
- Very simple and intuitive use
- Modular concept using Alterus IN24 and OUT24 modules
- Robustski CAN-BUS communication protocol
- ALTERUS web application enables preparing stop combinations at home

2. Technical Data

Parameter	Value	Unit
Power supply voltage	10 – 30	VDC
Number of channels	128	channels
Communication	CAN-BUS	
Display type	OLED graphical	
Display resolution	256*64 pixels	
Temperature measuring accuracy/resolution	0,5 / 0,1	°C
Humidity measuring accuracy/resolution	5 / 0,1	rH
Input board (ALTERUS IN24)		
Number of input channels	12/24	channels
Number of analog input channels	2	channels
Triggering type of digital input channel	VIN/GND	onboard jumper
Allowed input voltage on analog/digital channel	0 – 30	VDC
Dimensions	115x40x73	mm; h*w*d
Izhodna plošča (ALTERUS OUT24)		
Number of output channels	12/24	kanalov
Current per output max.	2	A
Total current per module max.	15	A
Dimensions	115x40x73	mm; h*w*d

3. Instructions for safe use and maintenance

Safe use

- This system must be integrated into a system by a proper qualified person
- All modules contain no end-user servicable parts and must not be modified
- All operations must be performed with main power disconnected
- Any damaged cable must be replaced immediatly

Maintenance

- There is no need for special maintenance for this device
- It is suggested that occasionally dust is removed using slightly wet clothes or compressed air

4. Basic operating

After organ is switched on and power is applied to the system, Alterus first performs self-diagnostics, where it checks for all components and modules, communication channels and checks, if USB stick is inserted. After successful startup, main screen is displayed, where all information is displayed regarding to the USB stick presence. All stops are disabled.

When inserting USB stick, first USB stick name (*Gregg Allman*) is displayed and after some time system displays defined bank and combination (*04/001*, see later, can be defined in *ORGANS/CONFIG.DAT*).

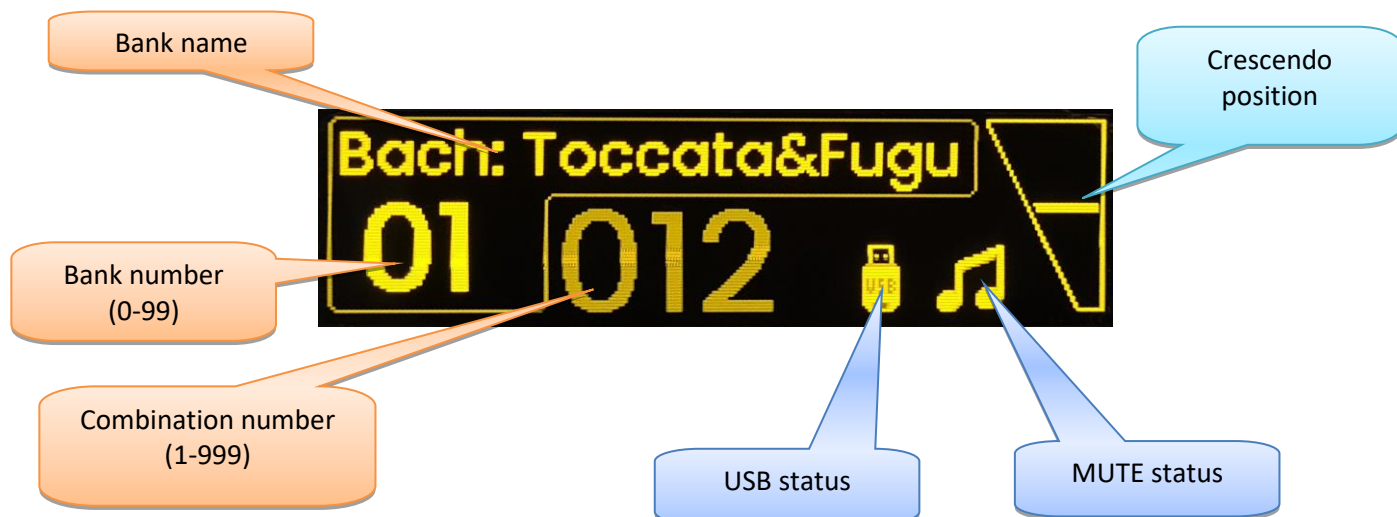


If USB stick is missing, display shows temperature, humidity and crescendo (with optional sensor module).



If new/empty USB stick is inserted, system start to write new files to it on first startup. USB stick must have \ALTERUS folder created on it to be recognized as valid.

Following information is displayed on base panel, if USB is inserted:



If bank or combination number is dimmed, this means that it is ready to load, but not engaged yet: this must be done pressing »NEXT« button.

4.1 Selecting Bank / Combination

USB stick containing 99 banks and each bank contains 999 combinations. We may move through combinations using »Previous« and »Next« buttons, which are located on several parts on the console.

4.1.1 Selecting Bank

- Short press »B« button
 - o Bank number goes to »--«
- Enter bank number using numeric buttons
 - o Bank number is dimmed, combination is not displayed
 - o Using numeric buttons, enter bank number.
- Short press »Next« button
 - o Data is read from USB
- Bank number lights fully and switches to combination 1
 - o Combination is not activated yet, just prepared
- Short press »Next« button to activate combination
 - o Combination number is fully lit
 - o Solenoids are activated to C001



Bank 00 is used for special purposes (see 4.1.3) and must not be used for ordinary combinations!



After bank is changed, combination is always set to position 1.



User may set default bank and combination, which is recalled after system is started / USB is inserted. We can do this using Alterus software or manually edit file ORGANS/CONFIG.DAT (third line, default »BOOT 1,1«, where we can also rename USB stick (second line, default Alterus USB name«), which is displayed on startup.

4.1.2 Selecting Combination

Basic combination selection using numeric keys

- Short press »C« button, button lights up
 - o Combination number goes to »---«

- Enter combination number (1 – 999)
 - o Combination number is dimmed
 - o In case of typing mistake, pressing »C« button during entering combination deletes current entry is deleted and replaced by »---«

- Short press »Next« button, combination is activated
 - o Combination number lits fully and activates stops
 - o Numeric button for ones is lit (i.e. LED on button 4 when combination 254 is selected)



Combination select within tens

- During playing, player may quick jumps through combination within selected tens using 0-9 buttons
- I.e. when playing in combination 234, button »4« is lit. User may press 7 to jump to 237.
- Number 0 jumps to next tens (i.e. when in 234, pressing 0 jumps to 240)

4.1.3 Special functions within Bank 00 (quick combinations, user defined crescendos)

Bank 00 holds some special functions such as custom crescendos and some settings. Do not use bank 00 for storing normal combinations. See chapter 4.4 for more information.

4.2 Saving Combinations

Alterus basically enables 2 types of saving combinations: sequencional saving, where we are storing a sequence of combinations for i.e. a concert or one-time saving, where we want to save certaing combination to certain number. Depending on a user scenario, both options can be used.

Default storing principle is saving, when SAVE button is released. This means, that several actions are allowed, when SAVE button is pressed, as described later in 4.2.2.

4.2.1 Creating a sequence of combinations

1. Move to the bank/combination location, where you want to store first combination.
2. Set stops to desired positions.
3. Press »Save« button.
 - a. If »SAVE+« option is enabled, system will automatically move to next without changing stops.
 - b. If »SAVE+« option is not enabled, system will stay on the same combination as it was before saving.

**If there is already some saved content within next combination, it will not be recalled, unless pressing »Next« button.*



SAVE+ function may be activated/deactivated using PC software or manually in ORGANS/CONFIG.DAT.
(fourth line, default »SAVE+,1« (1=enabled, 0=disabled))

4.2.2 Store current stop set to any combination (using SAVE button)

- Press and hold SAVE button
 - o Button's light activates
- (option 1) Enter number using numeric buttons
 - o Whole number must be entered. I.e. if in C123 and we want to store to C125, »125« must be entered, not only »5«! (this would store to C5)
- (option 2) Move to the saving position using PREVIOUS / NEXT buttons
 - o Instead of numeric combination entry it is also possible to move using navigation keys
- (option 3) Do nothing
 - o In this case combination is stored to current position
- Release SAVE button
 - o Light in SAVE button deactivates
 - o Combination is stored to selected combination
 - o System is located on the last saved combination

4.2.3 Store current stop set to any combination (using COMBINATION button)

- Short press »C« button, button lights up
 - o Combination number goes to »---«
- Enter combination number (1 – 999)
 - o Combination number is dimmed
- Short press »Save« button, combination is stored to this place



Warning! If anything is stored on the position of the combination, which we are writing to, this old content is lost when writing new combination!

4.3 Crescendo function

ALTERUS supports 64 level crescendo; primary is stored in the controller FLASH memory and can be used anytime. Primary crescendo is set on organ setup and cannot be altered. Additionally, user with USB stick may define 3 custom crescendos which can be activated instead of the default one in the organ. Those crescendos are defined as combinations in bank 00 (cresc 1: B0/C101–164, cresc 2: B0/C 201 – 264 in cresc 3: B0/C 301 – 364).

After crescendo is activated, system doesn't change stops regarding to the pedal position (Crescendo pedal position - line), but searches, which crescendo level matches best with currently activated stops (Current Stops, zero in this case), indicated with dimmed position.



When player moves crescendo pedal over the Crescendo line (to zero in this case), crescendo combinations are activated and now player may adjust stops using crescendo pedal. Visually grayed area below line (currently activated stops) now follows the Crescendo line.



Default crescendo from FLASH is selected on organ startup. However, user may change it simple by pressing numeric buttons 0 – 3 when crescendo is activated:



- 0 = pre-programmed crescendo in organ (works also without USB stick)
- I = user defined crescendo on USB, positions B00/101-164
- II = user defined crescendo on USB, positions B00/201-264
- III = user defined crescendo on USB, positions B00/301-364

Crescendo selection is stored until organ is shut down / USB is removed. Then again default crescendo (0) will be engaged when crescendo function will be activated for the first time.

After crescendo is deactivated, stops stay in position, where they were in a moment of crescendo deactivation. However, bank/combination is displayed, which was engaged prior entering Crescendo mode and if user wants to recall it, »Next« button must be pressed.

When Crescendo is enabled, »Prev«/»Next« buttons may also be used for moving through crescendo levels (if pedal is still). However, pedal always has priority when moved.

i When programming Crescendo levels it is easiest to move through levels using »Prev« and »Next« buttons.

i On smaller systems 64 levels is usually too much. We can have less levels with combining more similar levels together, which will then act as one level.
Example: If we want to have 20 levels only, we create triplets of same stop settings; crescendo level 1 = combinations 101, 102, 103; level 2 = combinations 104, 105, 106 etc. up to 164.

4.4 Reeds

Alterus supports global reeds removal, which is active globally (crescendo, fixed combinations, stored combinations). When reeds are activated, pre-defined stops are disabled and stay so until function disabling.

Reeds are programmed using service tool on system setup.

4.5 Fixed combinations (tutti, pleno ...)

Alterus supports fixed combinations, which are basically combinations, stored in internal FLASH memory and can be activated and deactivated using a dedicated button. After function is deactivated, stops are returned to previous position.

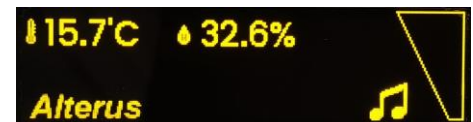
Fixed combinations are programmed using service tool on system setup.

4.6 Using ALTERUS without USB memory stick

ALTERUS can of course be used also without memory media, however in this case some functions are not available.

In this case, display shows current temperature and humidity instead of bank/combination.

Crescendo and direct stop controlling work as well as reeds disabling.



5. Contact and support

For more information and support please write us at

alterus@ikSOR.si

In case of urgent actions, please contact us using phone

+386 (0)41 905 666 (9AM – 3PM, GMT+1)